Amendment and Response
Applicant: Ronald L. Hall et al.
Serial No.: 10/721,688
Filed: November 25, 2003
Docket No.: 200206298-1
Title: MONOCHROME AND COLOR TRANSFER

IN THE CLAIMS

Please cancel claims 1, 4, 6, 7, and 11 without prejudice.

Please amend claims 2, 3, 5, 8, 9, 10, 12, 14, 15, 16, 21, and 25 as follows:

1.   (Cancelled)

2.   (Currently Amended) The method of ~~claim 1~~ claim 5, wherein the number of color channels equals a number of colors available on a device.

3.   (Currently Amended) The method of ~~claim 1~~ claim 5, wherein a number of color channels available on a device are allocated to transfer the identified monochrome type pixel data.

4.   (Cancelled)

5.   (Currently Amended) ~~The method of claim 4~~ A method for processing data, comprising:

defining a number of color channels, each channel to transfer a particular color element of a stream of color type pixel data;

identifying monochrome type pixel data within a data stream that can be represented by a single monochrome base color and shades of the base color; and

allocating more than one color channel to transfer the identified monochrome type pixel data,

wherein defining the number of color channels includes defining a red data channel, a green data channel, and a blue data channel,

wherein allocating [[a]] the more than one color channel includes allocating the red data channel to transfer the identified monochrome type pixel data.

6.   (Cancelled)

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Docket No.: 200206298-1
Title: MONOCHROME AND COLOR TRANSFER

7.   (Cancelled)

8.   (Currently Amended) ~~The method of claim 7~~ A method for processing pixel data, comprising:

        sharing a color channel to transfer monochrome type pixel data and color type pixel data;

        identifying monochrome type pixel data within a data stream; and

        transferring the identified monochrome type pixel data through the shared channel,

        wherein sharing a color channel includes sharing a channel selected from a red channel, a green channel, and a blue channel,

        ~~further including~~ wherein transferring the identified monochrome type pixel data includes transferring the monochrome and color type pixel data in the red channel and the blue channel.

9.   (Currently Amended) The method of ~~claim 6~~ claim 8, further including sharing a channel selected from a Luminosity channel, an A-layer channel, and a B-layer channel.

10.   (Currently Amended) The method of ~~claim 6~~ claim 8, further including sharing a channel selected from a Luminosity channel, a Chroma channel, and a Hue channel.

11.   (Cancelled)

12.   (Currently Amended) ~~The medium of claim 11~~ A computer storage medium having a set of computer executable instructions for causing a device to perform a method, comprising:

        defining a number of color channels, each channel to transfer a particular color element of a stream of color type pixel data;

        identifying monochrome type pixel data within a data stream that can be represented by a single monochrome base color and the shades of the base color; and

        allocating more than one color channel to transfer the identified monochrome type pixel data,

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wherein the method further comprises bypassing processing of identified monochrome type pixel data in a processing module along a color channel allocated to transfer the identified monochrome type pixel data.

13.   (Original) The medium of claim 12, wherein bypassing includes processing monochrome type pixel data with the processing module.

14.   (Currently Amended) The medium of ~~claim 11~~ claim 12, wherein the method further comprises processing color type pixel data, transferred through the number of color channels, with a processing module along a color channel.

15.   (Currently Amended) The medium of ~~claim 11~~ claim 12, wherein the method further comprises defining a Luminosity channel, an A-layer channel, and a B-layer channel.

16.   (Currently Amended) The medium of ~~claim 11~~ claim 12, wherein the method further comprises defining a Luminosity channel, a Chroma channel, and a Hue channel.

17.   (Original) The medium of claim 16, wherein the method further comprises allocating the Luminosity channel to transfer monochrome type pixel data.

18.   (Previously Presented) An image processing unit, comprising:

an application specific integrated circuit having a color pipeline to transfer monochrome and color type pixel data;

a first channel in the color pipeline to transfer both monochrome type pixel data, which can be represented by a single monochrome base color and the shades of the base color, and a first color type pixel data;

a second channel in the color pipeline to transfer both the monochrome type pixel data and a second color type pixel data; and

a number of processing modules connected to the color pipeline, wherein at least one of the processing modules processes the monochrome type pixel data and wherein at least one of the processing modules processes color type pixel data.

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19.   (Original) The image processing unit of claim 18, further including a processing module to process both monochrome type and the color type pixel data.

20.   (Original) The image processing unit of claim 19, wherein one or more processing modules can be bypassed based upon a type of pixel data to be processed.

21.   (Currently Amended) A data processing system, comprising:

a processing unit having a number of color type pixel processing channels;

means for identifying monochrome type pixel data that can be represented by a single monochrome base color and the shades of the base color; and

means for allocating more than one color type pixel processing channel to transfer the identified monochrome type pixel data, including a first processing channel for transferring both monochrome type pixel data and a first color type pixel data, and a second processing channel for transferring both monochrome type pixel data and a second color type pixel data.

22.   (Previously Presented) The data processing system of claim 21, wherein the means for identifying includes a computer readable medium having a set of computer executable instructions to identify monochrome type pixel data in a data stream.

23.   (Previously Presented) The data processing system of claim 21, wherein the means for allocating includes a computer readable medium having a set of computer executable instructions to allocate at least one of the color type pixel processing channels to transfer the identified monochrome type pixel data.

24.   (Previously Presented) The data processing system of claim 23, further including a computer readable medium having a set of computer executable instructions to preset a number of processing modules to process monochrome type pixel data and bypass color type pixel data through the processing unit unprocessed.

Amendment and Response
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Title: MONOCHROME AND COLOR TRANSFER

25.   (Currently Amended) A data processing system, comprising:

a data source to provide a number of types of pixel data;

a processing unit coupled to the data source, the processing unit having a pipeline to perform pixel processing operations on at least one monochrome type <u>pixel data</u> and color type pixel data, wherein the processing unit transfers the at least one monochrome type <u>pixel data</u> and color type pixel data in more than one channel defined within the pipeline and processes the monochrome type pixel data with a number of processing modules connected to a defined channel<u>, the more than one channel including a first channel to transfer both monochrome type pixel data and a first color type pixel data, and a second channel to transfer both monochrome type pixel data and a second color type pixel data</u>; and

a destination device for receiving processed data from the processing unit.

26.   (Original) The data processing system of claim 25, wherein the processing unit can receive at least one of the number of types of pixel data and wherein the processing unit can be set to process the number of types of pixel data based upon identification of the type of pixel data to be received by the processing unit.

27.   (Original) The data processing system of claim 25, the system further includes a memory for storing processed data received from the pipeline.

28.   (Original) The data processing system of claim 27, wherein the destination device includes a display to receive and display processed pixel data.

29.   (Original) The data processing system of claim 25, wherein the destination device includes a printer to receive and print processed pixel data.